

DATE: 06/06/2002

PCT09

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PATENT APPLICATION: US/09/673,918A
                                                              TIME: 12:35:17
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      3 <110> APPLICANT: Xia, Zhi-Qiang
              Costa, Michael A
              Davin, Laurence B
              Lewis, Norman G
      8 <120> TITLE OF INVENTION: Recombinant Secoisolariciresinol Dehydrogenase, and
              Methods of Use
     11 <130> FILE REFERENCE: WSUR116430
     13 <140> CURRENT APPLICATION NUMBER: 09/673,918A
€V-> 14 <141> CURRENT FILING DATE: 2002-04-09
     16 <150> PRIOR APPLICATION NUMBER: PCT/US99/08975
                                                               ENTERED
     17 <151> PRIOR FILING DATE: 1999-04-23
     19 <150> PRIOR APPLICATION NUMBER: 60/082,977
     20 <151> PRIOR FILING DATE: 1998-04-24
     22 <160> NUMBER OF SEQ ID NOS: 25
     24 <170> SOFTWARE: PatentIn Ver. 2.0
     26 <210> SEO ID NO: 1
     27 <211> LENGTH: 819
     28 <212> TYPE: DNA
     29 <213> ORGANISM: Forsythia x intermedia
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     33 <222> LOCATION: (1)..(819)
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     41 Leu Ile Thr Gly Gly Ala Ser Gly Ile Gly Glu Thr Thr Ala Lys Leu
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78	ALG.	TYL	. Cys	СТУ	165	цуз	1112	лца	Vai	170	AIG	пси	1111	пту	175	цец	
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82	AIG	· uı	OIU	180	G L y	O I II	1 110	GLY	185	111 9	vu.	21511	Cys	190	DCI	110	
-	ttc	aaa	ctt		аса	act	tta	aac		aaa	+++	tca	aaa		aaa	aat	624
	Phe																021
86	1 110	O.L.I	195	110				200	2,2		1	001	205				
	gaa	αаа		ttt	σασ	aat.	σt.a		aac	ttt	aca	σσα		t.t.a	aaa	aat.	672
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90		210					215					220			1-	1	
	cca		ttt	aat	att	qaq	gat	qtt	qcc	aat	qca	qct	ctt	tat	ctq	qct	720
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121		~ 3	35					4(		~1		_	45		<b>-1</b>	_	
				s Sei	· Val	. Val			116	e GTA	Thr			ı Sei	Thi	r Tyr	
124		5(				m 1.	55				. 17-7	60			77-7	3	
			з Суз	s ASE	va]			ı GIL	ı ASE	) GTA			ASI	ı Alā	ı val	l Asp	
127			a 17- <sup>1</sup>		. m.L	70		. T	. т	, »	75		nh-		. 7	80	
125	, AST	Tni	va.	sei	ını	туі	. GIZ	, гА:	, rec	LASP	, 116	e met	. PUE	e sei	ASI	n Ala	

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209			115		_			120					125				
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221	_				165	_	_	_		170					175		•
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                                              170
                                                                  175
     291 Thr Arg Asn Leu Ala Val Glu Leu Gly Gln Phe Gly Ile Arg Val Asn
                                         185
     294 Cys Leu Ser Pro Phe Gly Leu Pro Thr Ala Leu Gly Lys Lys Phe Ser
                                      200
     295
     297 Gly Ile Lys Asn Glu Glu Glu Phe Glu Asn Val Ile Asn Phe Ala Gly
     298
                                 215
                                                      220
     300 Asn Leu Lys Gly Pro Lys Phe Asn Val Glu Asp Val Ala Asn Ala Ala
                             230
                                                  235
     303 Leu Tyr Leu Ala Ser Asp Glu Ala Lys Tyr Val Ser Gly His Asn Leu
                                              250
                         245
     306 Phe Ile Asp Gly Gly Phe Ser Val Cys Asn Ser Val Ile Lys Val Phe
     307
                     260
                                          265
     309 Gln Tyr Pro Asp Ser
     310
                 275
     313 <210> SEQ ID NO: 5
     314 <211> LENGTH: 819
     315 <212> TYPE: DNA
     316 <213> ORGANISM: Forsythia x intermedia
     318 <220> FEATURE:
     319 <221> NAME/KEY: CDS
     320 <222> LOCATION: (1)..(819)
     322 <220> FEATURE:
     323 <221> NAME/KEY: misc_feature
     324 <222> LOCATION: (1)..(819)
     325 <223> OTHER INFORMATION: cDNA molecule encoding secoisolariciresinol dehydrogenase
wherein Xaa = any amino acid
     327 <400> SEQUENCE: 5
                                                                            48
     328 atg cag ctt cga act gca atc gca aga agg cta gaa gga aaa gtt gcc
     329 Met Gln Leu Arg Thr Ala Ile Ala Arg Arg Leu Glu Gly Lys Val Ala
                           5
                                              10
     332 ctt ata aca gga gga gcc agt gga gtt gga gaa gtc aca gca aaa ctc
     333 Leu Ile Thr Gly Gly Ala Ser Gly Val Gly Glu Val Thr Ala Lys Leu
     334
                      20
                                           25
     336 ttc tcc caa cat gga gcc aaa gtt gcc att gct gat gtc caa gat gaa
     337 Phe Ser Gln His Gly Ala Lys Val Ala Ile Ala Asp Val Gln Asp Glu
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/06/2002 PATENT APPLICATION: US/09/673,918A TIME: 12:35:18

Input Set : A:\16430seq.txt

Output Set: N:\CRF3\06062002\I673918A.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 360,366
Seq#:5; Xaa Pos. 120,122
Seq#:6; Xaa Pos. 120,122
Seq#:11; Xaa Pos. 3,12,20
Seq#:14; N Pos. 3,9,15,18
Seq#:15; N Pos. 3,9
Seq#:16; N Pos. 3,9
Seq#:18; N Pos. 3,9

## Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

```
Seq#:1; Line(s) 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:1; Line(s) 24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43
Seq#:1; Line(s) 44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
Seq#:1; Line(s) 64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83
Seq#:1; Line(s) 84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102
Seq#:1; Line(s) 103,104,105,106,107,108
Seq#:2; Line(s) 109,110,111,112,113,114,115,116,117,118,119,120,121,122,123
Seq#:2; Line(s) 124,125,126,127,128,129,130,131,132,133,134,135,136,137,138
Seq#:2; Line(s) 139,140,141,142,143,144,145,146,147,148,149,150,151,152,153
Seq#:2; Line(s) 154,155,156,157,158,159,160,161,162,163,164,165,166,167,168
Seq#:2; Line(s) 169
Seq#:3; Line(s) 170,171,172,173,174,175,176,177,178,179,180,181,182,183,184
Seq#:3; Line(s) 185,186,187,188,189,190,191,192,193,194,195,196,197,198,199
Seq#:3; Line(s) 200,201,202,203,204,205,206,207,208,209,210,211,212,213,214
Seq#:3; Line(s) 215,216,217,218,219,220,221,222,223,224,225,226,227,228,229
Seq#:3; Line(s) 230,231,232,233,234,235,236,237,238,239,240,241,242,243,244
Seq#:3; Line(s) 245,246,247,248,249,250,251,252
Seq#:4; Line(s) 253,254,255,256,257,258,259,260,261,262,263,264,265,266,267
Seq#:4; Line(s) 268,269,270,271,272,273,274,275,276,277,278,279,280,281,282
Seq#:4; Line(s) 283,284,285,286,287,288,289,290,291,292,293,294,295,296,297
Seq#:4; Line(s) 298,299,300,301,302,303,304,305,306,307,308,309,310,311,312
Seq#:4; Line(s) 313
Seq#:5; Line(s) 314,315,316,317,318,319,320,321,322,323,324,325,326,327,328
Seq#:5; Line(s) 329,330,331,332,333,334,335,336,337,338,339,340,341,342,343
Seq#:5; Line(s) 344,345,346,347,348,349,350,351,352,353,354,355,356,357,358
Seq#:5; Line(s) 359,360,361,362,363,364,365,366,367,368,369,370,371,372,373
Seq#:5; Line(s) 374,375,376,377,378,379,380,381,382,383,384,385,386,387,388
Seq#:5; Line(s) 389,390,391,392,393,394,395,396,397,398,399,400
Seq#:6; Line(s) 401,402,403,404,405,406,407,408,409,410,411,412,413,414,415
Seq#:6; Line(s) 416,417,418,419,420,421,422,423,424,425,426,427,428,429,430
Seq#:6; Line(s) 431,432,433,434,435,436,437,438,439,440,441,442,443,444,445
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